

REMARKS

This responds to the Office Action mailed on November 21, 2005. Reconsideration is respectfully requested.

Claims 1, 5, 10, 11, 14 and 28 are amended, no claims are canceled, and no claims are added; as a result, claims 1 – 30 remain pending in this application.

§103 Rejection of the Claims

Claims 1-30 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Yao ("Proxy-Based Recovery for Applications on Wireless Hand-Held Devices," Reliable Distributed Systems 2000, SRDS 2000, Proceedings of the 19th IEEE Symposium on 16-18 October 2000, Pages 2-10) in view of Yukie et al. (U.S. 6,956,833).

Applicants' claims 1 – 9 are directed to mobile server that includes two portions: a master server portion and a virtual server portion. The master server portion resides in a wireless communication device, and the virtual server portion operates within a publicly-accessible internet network. As recited in claims 1 – 9, the master server portion stores a master version of server data, operates within a wireless communication network, and communicates through one or more base stations of the wireless communication network. The virtual server portion is accessible to client devices through the publicly-accessible internet network, stores the server data and receives updates to the server data from the master server portion through a support node. The support node provides an interface between the wireless communication network and the publicly-accessible internet network. As further recited in claim 1, the virtual server portion provides the server data and services on behalf of the master server portion over the publicly-accessible internet network to client devices requesting the server data and server services from the mobile server. The support node routes packets from requesting client devices to the virtual server portion instead of to the master server portion.

Discussion of the Yao reference:

In Yao, the server devices are shown as wired servers on the left in Figure 1 of Yao and communicate with client devices which are shown as cellular client devices on the right in Figure

1. In Yao, the proxy (shown in the center of Figure 1) stores a copy of the client state (i.e., the state of the cellular client devices) for failure recovery (see Yao Abstract, and section 1.3).

According to the Examiner, Applicants' master server portion corresponds to the cellular devices of Yao. Applicants submit that the cellular devices of Yao are client devices, not server devices, and do not store server data. Applicants' master server portion stores master versions server data and is a server device.

Applicants find no teaching, suggestion or motivation that Yao's cellular devices store server data or act in any way as server devices. Yao's cellular devices are simply wireless client devices. Yao's cellular devices do not provide *server* data on behalf of Yao's servers.

Applicants' master server portion, which resides in a wireless device, on the other hand, provides server data to the virtual server portion, which resides in the publicly-accessible internet network. As recited in Applicants' amended claim 5, for example, Applicants' master server portion furthermore operates as a server and stores not only server data, but Web-page data and client data associated with one or more client devices. The client devices are different devices than the master server portion and the virtual server portion of Applicants' claim 1. In view of this, Applicants submit that Yao's cellular client devices do not correspond to Applicants' master server portion and that there is no teaching, suggestion or motivation in Yao of providing a master server portion residing in a wireless device.

Applicants further find no teaching, suggestion or motivation that Yao's servers provide server services on behalf of a master server portion that resides in a wireless device. Yao's servers are simply servers and provide their own server services within a wired network. There are no devices in Yao that provide server services on behalf of Yao's servers.

Applicants further find no teaching, suggestion or motivation that Yao's proxy device provides server services on behalf of a master server portion. Yao's proxy stores a copy of the client state for use in failure recovery. This allows the cellular client devices to recover from an unexpected disconnection from the wireless network, allowing the cellular clients to be reconnected to the server. The proxy does not provide server services.

Applicants further find no teaching, suggestion or motivation that Yao's servers are wireless devices. Applicants' submit that Yao teaches away from wireless server operations. Yao is particularly concerned with the wireless connection between the cellular clients and the

wireless network by providing for failure recovery using the proxy. The wireless connections are stated be unreliable by Yao (see Yao section 1.2) and the server must have a reliable wired connection with the proxy for Yao's failure recovery mechanism to operate. This *teaches away* from the use of a wireless server. Accordingly, there would be no motivation or reason to combine Yao with any references that disclose a wireless server.

Applicants further find no teaching, suggestion or motivation in Yao of a support node that provides an interface between the wireless communication network and the publicly-accessible internet network that allows the server data and updates to the server data to be received from the master server portion, as recited in Applicants' claim 1.

Applicants further find no teaching, suggestion or motivation in Yao of a support node that routes packets from requesting client devices to the virtual server portion instead of the master server portion allowing server data to be provided directly to client devices rather than over a wireless connection.

Applicants further find no teaching, suggestion or motivation in Yao that a virtual server portion receives updates to the server data from the master server portion through a support node. Since Yao's server only has a single portion, there is no reason to update anything. Yao's proxy is not updated by server data from the servers, because the proxy maintains client state, not server data. The server of Yao, since it is located within a wired network, can be reliably accessed so there is no motivation in Yao to store server data elsewhere.

Discussion of the Yukie reference:

Yukie has been cited by the Examiner as disclosing a wireless server. In Yukie, data from user device 10 is sent over a wireless connection to the data server 16, where it can be safely stored for subsequent access by the wired terminal (see FIG. 1 of Yukie). The purpose of Yukie is to help overcome the limited storage capacity of user devices by storing the data on a remove server, show as data server 16 (see FIG. 1 of Yukie). Yukie's data server 16 may be coupled with either a wired or wireless communication link 20 to base station 20 and either a wired or wireless communication link 24 to Internet 22 (see FIG. 1 of Yukie). Although Yukie's data server 16 may be considered a wireless server because it may have a wireless link, Yukie's server data is not available by clients when the wired connection is not available.

In other words, if Yukie's data server 16 is to correspond to Applicants' master server portion and link 24 were a wireless link, there is no teaching in Yukie to make the server data available to clients directly through internet 22 without a wireless connection. If Yukie's data server 16 were considered to correspond to Applicants' virtual server portion, link 24 would be a wired link. However, Yukie's data server 16 does not provide server data and services to client devices, as Applicants' virtual server portion recited in claim 1. Yukie's data server 16 simply stores data for a user device to be later retrieved using terminal 26. In Yukie, client devices, such as terminal 26, do not request server data from user device 10, but request server data directly from data server 16. Furthermore, there is no support node in Yukie that routes packets from requesting client devices that are destined to a wireless device to a wired network server. Applicants' claim 1 recites that the virtual server portion provides the server data and services on behalf of the master server portion over the publicly-accessible internet network to client devices requesting the server data and server services from the mobile server. The support node routes packets from requesting client devices to the virtual server portion instead of the master server portion.

In view of the above, Applicants submit that combining Yao with Yukie does not result in Applicants' claimed invention as recited in claims 1 – 9. Applicants also submit that claims 1 – 9 are allowable over Yao with Yukie and that the rejection of claims 1 – 9 under 35 U.S.C. § 103(a) over Yao et al. and Yukie et al. has been overcome.

Claims 10 – 13, are directed to a system that includes the support node and the mobile server having the master server portion and the virtual server portion. Claims 10 – 13 further recite that the support node maps a public address for the mobile server to the virtual server portion in response to a request from the mobile server to activate server services.

Claims 14 – 27 are directed to a method for providing mobile server services from a wireless communication device. The method comprises receiving, at a support node, a request from a mobile server to activate server services, mapping, by the support node in response to the request, a first network address for the mobile server to a virtual server portion of the mobile server, receiving server data for the virtual server portion from a master server portion of the mobile server through a wireless network, routing a client request received from a client device through a publicly accessible internet network for server service to the virtual server portion, and

servicing the client request by the virtual server portion on behalf of the master server portion by providing at least some of the server data. As further recited in claims 14 – 27, the master server portion resides in the wireless communication device, stores a master version of the server data and updates the server data within the virtual server portion. As further recited in claims 14 – 27, the virtual server portion operates within the publicly accessible internet network and communicates the server data with requesting client devices whether or not the master server portion is accessible through the wireless network. As further recited in claims 14 – 27, the support node provides an interface between the publicly accessible internet network and the wireless network. Claims 28 – 30 have similar recitations.

Applicants find no teaching, suggestion or motivation in either Yukie or Yao of mapping a public address for the mobile server to the virtual server portion in response to a request from the mobile server to activate the server services, as recited in claims 10 – 30. In Yukie, terminal 26 requests data directly from data server 16, not user device 10, so there is no reason to map one server address to another. In Yao, clients request data from a server through proxy, so there is no reason to map server addresses.

In view of the discussions above, Applicants' submit that claims 10 – 30 are allowable over Yao with Yukie and that the rejection of claims 10 – 30 under 35 U.S.C. § 103(a) over Yao et al. and Yukie et al. has been overcome.

Claims 2-5, 7, 13, 15, 18-20, 22 and 25 were also rejected under 35 U.S.C. § 103(a) as being unpatentable over Yao et al. and Yukie et al. and further in view of Inoue et al. (U.S. 6,874,017).

Inoue has been cited by the Examiner for disclosing that a support node registers the mobile server to provide services and states that Inoue discloses an equivalent configuration as Applicants' claimed invention. Applicants respectfully disagree with this because in Inoue, all servers are wired terminals and are not part of a wireless network (see Inoue FIGs. 1, 2, 4, 5, 9, 11, 14, 15, 17 and 22, in particular element 2). In Inoue, cache servers 3 are provided in association with base stations 12 (column 7 lines 41 – 55) so that access to cache information can be improved (column 2, lines 33 – 38). Inoue's cache servers 3 cache data for wired servers. The cache servers do not cache server data for mobile devices.

Applicants further find no teaching, suggestion, or motivation in Inoue for disclosing that a support node registers a mobile server to provide server services in response to a request from a mobile server to activate server services. The Examiner states in the office action that this can be found in column 11 of Inoue, however Applicants cannot find this teaching. Inoue discloses a management device that registers a current location of a mobile computer for use in selecting a cache server (see column 11 lines 22 – 33 and FIG. 6 of Inoue). There is no registration by the mobile computer, nor is there any providing of server services by the cache servers on behalf of the mobile computer.

Inoue is concerned with reducing network bandwidth when mobile devices and wireless terminals access WWW services. In Inoue, web pages from a wired-network server (WWW server) are cached in cache servers on an access route so that response time and bandwidth on the network is reduced (see column 1 line 49 through column 2 line 24) when accessed by a mobile device. Applicants' claims, on the other hand, are concerned with accessing information from a mobile wireless server without having to transfer the data over the wireless network.

In view of the above, Applicants' submit that claims the rejection of 2 – 5, 7, 13, 15, 18-20, 22 and 25 under 35 U.S.C. § 103(a) as being unpatentable over Yao et al. and Yukie et al. and further in view of Inoue, has been overcome.

Claims 8, 9, 11, 12, 16, 17, 21, 23, 24, 26, 27, 29 and 30 were also rejected under 35 U.S.C. § 103(a) as being unpatentable over Yao et al. and Yukie et al. and further in view of Dorenbosch et al. (U.S. 2002/0114317).

Dorenbosch has been cited by the Examiner for switching an ongoing communication between a wireless connection and a wired connection (see office action page 4, second paragraph). Applicants' claims do not recite switching between wireless and wired connection. Applicants' claim 8, as dependent on claim 1, recites that packets are routed to the virtual server portion (on a wired network) instead of the master server portion (wireless device). Applicants' claim 8 further recites that the support node maps a first network address for the mobile server to the virtual server portion, and that the support node routes data packets that have the first network address as a destination address to the virtual server portion to allow the virtual server portion to provide the server data and services to the requesting client devices on behalf of the

master server portion over the publicly-accessible internet network. Claim 8 further recites that the support node routes data packets that have a network address of the virtual server portion to the virtual server portion to allow the master server portion to provide the virtual server portion with updates to the server data. Applicants find no such teaching in Dorenbosch.

In Applicants' claims 1, 10, 14 and 28, server data is provided from the virtual server portion which is in the wired network regardless of whether a client device requesting the server data is a wired computer terminal of a wireless mobile device. In Dorenbosch, a mobile device has both wired and wireless interfaces (See FIG. 1). In Dorenbosch, when the mobile device is communicating with a wireless network, the user may connect with a wired network to benefit from a higher-quality connection (see paragraph [0010], lines 1 – 6). In Applicants' claims, a client device that requests server data requests it from the master portion, but the packets are routed to the virtual portion. This avoids accessing the master portion which resides in a wireless device. There is no switching between wireless and wireless networks. Unlike Dorenbosch, Applicants claims avoid switching between wired and wireless networks.

In view of the above, Applicants submit that the rejection of claims 8, 9, 11, 12, 16, 17, 21, 23, 24, 26, 27, 29 and 30 under 35 U.S.C. § 103(a) as being unpatentable over Yao et al. and Yukie et al. and further in view of Dorenbosch, has been overcome.

Conclusion

Applicant respectfully submits that the claims are in condition for allowance and notification to that effect is earnestly requested. The Examiner is invited to telephone Applicants' attorney, Greg Gorrie at (480) 659-3314, or Applicants' below-named representative to facilitate prosecution of this application.

If necessary, please charge any additional fees or credit overpayment to Deposit Account No. 19-0743.

Respectfully submitted,

RUI LIN ET AL.

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CERTIFICATE UNDER 37 CFR 1.8: The undersigned hereby certifies that this correspondence is being deposited with the United States Postal Service with sufficient postage as first class mail, in an envelope addressed to: MS Amendment, Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450, on this 23rd day of January 2006.

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Name

Signature